

WHAT IS CLAIMED IS:

1. A system for providing telecommunication service between a plurality of users, comprising:

5 a first network operable to communicate media in at least one encoding format;

a second network operable to communicate media in at least one encoding format;

a gateway, operable to:

10 receive a call setup message from the first network, the call setup message signaling for a media channel for transporting media between a first device and a second device;

identify a first encoding format for the media communicated with the first network;

15 determine a second encoding format for the media communicated with the second network;

if the first encoding format and the second encoding format are different, modify transcoding information in the call setup message, the transcoding information indicating a number of transcoding points on the media channel;

20 identify a remote element to receive the call setup message; and transmit the call setup message to the remote element.

2. The system of Claim 1, wherein the gateway is further operable to modify the transcoding information in the call setup message by incrementing a counter value of the transcoding information.

3. The system of Claim 1, wherein the gateway is further operable to modify the transcoding information in the call setup message by appending information identifying an encoding format to the transcoding information.

4. The system of Claim 1, wherein the gateway is further operable to determine the second encoding format based on at least the transcoding information in the call setup message.

5 5. The system of Claim 1, wherein the gateway is further operable to determine the second encoding format based on at least whether a counter value of the transcoding information is less than a predetermined maximum.

10 6. The system of Claim 1, wherein the gateway is further operable to determine the second encoding format based on a cost associated with the second format.

15 7. The system of Claim 1, wherein the gateway is further operable to reject the call setup message, if the first encoding format and the second encoding format are different and a counter value of the transcoding information is equal to or greater than a predetermined maximum value.

20 8. The system of Claim 1, wherein the gateway is further operable to identify the remote element to receive the call setup message based on at least the transcoding information.

25 9. The system of Claim 1, wherein the gateway is further operable to identify the remote element to receive the call setup message based on at least whether a counter value of the transcoding information is less than a predetermined maximum.

10. A method for signaling to establish telecommunication service between a first and a second network comprising:

receiving a call setup message from a first network, the call setup message signaling for a media channel for transporting media between a first device and a second device;

identifying a first encoding format for media in the media channel communicated with the first network;

determining a second encoding format for media in the media channel communicated with a second network;

if the first encoding format and the second encoding format are different, modifying transcoding information in the call setup message, the transcoding information indicating a number of transcoding points on the media channel;

identifying a remote element to receive the call setup message; and transmitting the call setup message to the remote element.

11. The method of Claim 10, wherein modify the transcoding information in the call setup message comprises incrementing a counter value of the transcoding information.

12. The method of Claim 10, wherein modifying the transcoding information in the call setup message comprises appending information identifying an encoding format to the transcoding information.

13. The method of Claim 10, wherein determining the second encoding format comprises determining a second encoding format based on at least the transcoding information in the call setup message.

14. The method of Claim 10, wherein determining the second encoding format comprises determining a second encoding format based on at least whether a counter value in the transcoding information is less than a predetermined maximum.

15. The method of Claim 10, wherein determining the second encoding format comprises determining a second encoding format based on a cost associated with the second format.

5 16. The method of Claim 10, further comprising rejecting the call setup message, if the first encoding format and the second encoding format are different and a counter value of the transcoding information is equal to or greater than a predetermined maximum value.

10 17. The method of Claim 10, wherein identifying the remote element to receive the call setup message comprises identifying a remote element to receive the call setup message based on at least the transcoding information.

15 18. The method of Claim 10, wherein identifying the remote element to receive the call setup message comprises identifying a remote element to receive the call setup message based on at least whether the counter value of the transcoding information is less than a predetermined maximum.

19. A device for facilitating communication between a first network and a second network in a telecommunication system, comprising:

5 a first interface, operable to communicate with a first network and operable to receive a call setup message, the call setup message signaling for a media channel for transporting media between a first device and a second device;

a second interface, operable to communicate with a second network;

a processor operable to:

10 identify a first encoding format for the media communicated with the first network;

determine a second encoding format for the media communicated with the second network;

15 if the first encoding format and the second encoding format are different, modify transcoding information in the call setup message, the transcoding information indicating a number of transcoding points on the media channel;

identify a remote element to receive the call setup message; and

transmit the call setup message to the remote element using the second interface.

20 20. The device of Claim 19, wherein the processor is further operable to modify the transcoding information in the call setup message by incrementing a counter value of the transcoding information.

25 21. The device of Claim 19, wherein the processor is further operable to modify the transcoding information in the call setup message by appending information identifying an encoding format to the transcoding information.

30 22. The device of Claim 19, wherein the processor is further operable to determine the second encoding format based on at least the transcoding information in the call setup message.

23. The device of Claim 19, wherein the processor is further operable to determine the second encoding format based on at least whether a counter value of the transcoding information is less than a predetermined maximum.

5 24. The device of Claim 19, wherein the processor is further operable to determine the second encoding format based on a cost associated with the second format.

10 25. The device of Claim 19, wherein the processor is further operable to reject the call setup message, if the first encoding format and the second encoding format are different and a counter value of the transcoding information is equal to or greater than a predetermined maximum value.

15 26. The device of Claim 19, wherein the processor is further operable to identify the remote element to receive the call setup message based on at least the transcoding information.

20 27. The device of Claim 19, wherein the processor is further operable to identify the remote element to receive the call setup message based on at least whether a counter value of the transcoding information is less than a predetermined maximum.

28. A computer program stored on a computer readable medium, the computer program operable to:

receive a call setup message from a first network, the call setup message signaling for a media channel for transporting media between a first device and a second device;

identify a first encoding format for media in the media channel communicated with the first network;

determine a second encoding format for media in the media channel communicated with a second network;

if the first encoding format and the second encoding format are different, modifying transcoding information in the call setup message, the transcoding information indicating a number of transcoding points on the media channel;

identify a remote element to receive the call setup message; and
transmit the call setup message to the remote element.

29. The computer program of Claim 28, wherein the computer program is further operable to modify the transcoding information in the call setup message by incrementing a counter value of the transcoding information.

30. The computer program of Claim 28, wherein the computer program is further operable to modify the transcoding information in the call setup message by appending information identifying an encoding format to the transcoding information.

31. The computer program of Claim 28, wherein the computer program is further operable to determine the second encoding format based on at least the transcoding information in the call setup message.

32. The computer program of Claim 28, wherein the computer program is further operable to determine the second encoding format based on at least whether a counter value in the transcoding information is less than a predetermined maximum.

33. The computer program of Claim 28, wherein the computer program is further operable to determine the second encoding format based on a cost associated with the second format.

5 34. The computer program of Claim 28, wherein the computer program is further operable to reject the call setup message, if the first encoding format and the second encoding format are different and a counter value of the transcoding information is equal to or greater than a predetermined maximum value.

10 35. The computer program of Claim 28, wherein the computer program is further operable to identify the remote element to receive the call setup message based on at least the transcoding information.

15 36. The computer program of Claim 28, wherein the computer program is further operable to identify the remote element to receive the call setup message based on at least whether the a counter value of the transcoding information is less than a predetermined maximum.

37. A system for providing telecommunication service between a plurality of users, comprising:

means for receiving a call setup message from a first network, the call setup message signaling for a media channel for transporting media between a first device
5 and a second device;

means for identifying a first encoding format for media in the media channel communicated with the first network;

means for determining a second encoding format for media in the media channel communicated with a second network;

10 means for modifying transcoding information in the call setup message, if the first encoding format and the second encoding format are different, the transcoding information indicating a number of transcoding points on the media channel;

means for identifying a remote element to receive the call setup message; and

means for transmitting the call setup message to the remote element.